DOCUMENT RESUME

ED 123 771 EA 008 327

AUTHOR Garcia, Joseph O.
TITLE Comparison of Bilingual Education Program Costs to the Regular Education Program Costs.
PUB DATE 22 Apr 76
NOTE 28p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, California, April 19-23, 1976); Pages 22-28 may reproduce poorly due to small print in the original document

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Bilingual Education; Cost Indexes; Elementary Secondary Education; *Expenditure Per Student; *Program Costs; *School Statistics; *State Surveys; Tables (Data)
IDENTIFIERS *New Mexico

ABSTRACT

This paper describes a study that calculated program costs for bilingual education programs operating in New Mexico school districts during 1974-75 and compared those costs to costs for regular educational programs. Data were collected through a survey of all 88 public school districts in New Mexico. Per-pupil program costs for the regular school program in grades 4-6 were calculated and compared to Per-pupil costs for bilingual programs in each district. When districts were clustered into eight groups, based on total district enrollment, bilingual Program costs ranged from 37 percent of regular program costs (for districts with enrollments under 200) to 116 percent of regular program costs (for districts with enrollments from 4,000 to 7,500). The statewide average showed bilingual programs cost 103 percent as much as the regular educational program in grades 4-6). A series of tables present program cost and enrollment data for each district, as well as average figures for different sizes of districts and figures for the state as a whole. A sample survey questionnaire and samples of the various worksheets used to analyze the survey data are included in the appendix. (JG)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED123771

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SCOPE OF INTEREST NOTICE
The ERIC Facility has assigned this document for processing to: EA RC
In our judgement, this document is also of interest to the clearinghouses noted to the right. Indexing should reflect their special points of view.

Comparison of Bilingual Education Program Costs To The Regular Education Program Costs

By

Joseph O. Garcia

San Diego State University

April 22, 1976

Presented at the
60th Annual Meeting of
AMERICAN EDUCATIONAL RESEARCH ASSOCIATION

EA 008 327

COMPARISON OF BILINGUAL EDUCATION PROGRAM COSTS

TO THE REGULAR EDUCATION PROGRAM COSTS

Purpose of the Study

The study was designed to meet the following two primary objectives:

1. To determine the program costs for bilingual education programs operating in New Mexico school districts during the 1974-75 school year.
2. To compare the bilingual education program costs to the non-bilingual regular education program costs.

Bilingual Education Act in New Mexico

New Mexico is the only state that funds bilingual education as part of its cost differential funding formula. Other states fund bilingual education categorically and still many other states provide no state monies for bilingual education. Studies comparing the cost of bilingual education to non-bilingual education programs are necessary to determine policy formation and appropriations required to adequately meet the bilingual needs of students.

The purpose of the Bilingual Multicultural Education Act as enacted by the 1973 New Mexico State Legislature is to ensure equal education opportunities for students in New Mexico. At their discretion, local school districts may submit to the Department of Education a proposal for bilingual education programs. To be eligible for state financial support, each bilingual program must meet certain specified requirements as stipulated by the Department of Education.

The guidelines require that each bilingual program must:[1]

1. Provide for the educational needs of linguistically and culturally different students . . . with priority to be given to programs in grades K through three . . . . for which there is an identifiable need to improve the language capabilities of these students before funding programs at higher grade levels.
2. Use two languages as mediums of instruction for any part or all of the curriculum.
3. Use teachers who have specialized in elementary education and who have received special training in bilingual education conducted through the use of two languages.
4. Emphasize the history and cultures associated with the students' mother tongue.

Procedures

No cost studies were found that reported on bilingual education after a thorough review of the literature. This study, to the best of the researcher's knowledge, represents the first attempt to determine the costs associated with bilingual education. This provides vital information to

[2]Joseph O. Garcia, "Cost Analysis of Bilingual, Special, and Vocational Public School Programs in New Mexico," (Unpublished Ph.D. dissertation, University of New Mexico, 1976).

states already funding bilingual education or to states proposing bilingual education legislation.

This study represents a part of a larger study. The larger study entitled, "Cost Analysis of Bilingual, Special, and Vocational Public School Programs in New Mexico"[2] was designed to compare the program cost indices developed in the larger study to the program cost indices established in New Mexico law for purposes of determining the accuracy of those legal indices. Only those sections of the two data collection instruments which are applicable to this study will be presented and discussed.

Section V of Data Collection Instrument No. 2 was designed to collect data relative to bilingual education programs in New Mexico (See Appendix A). This instrument was field-tested in selected New Mexico school districts for purposes of refining the instrument in terms of item clarity and availability of data in the format requested.

In New Mexico, there are a total of eighty-eight public school districts. The data were collected from the entire population, no sampling technique was used. The researcher felt that no two public school districts in the State of New Mexico had identical spending patterns relative to bilingual education programs. Therefore, in order to identify actual expenditures while simultaneously reflecting the varied costs incurred in providing the programs, it was deemed essential that no sampling technique be employed and that the required data be gathered from all eighty-eight districts. Follow-up telephone calls were made to school districts returning instruments with missing data and/or data requiring clarification. There was a 100 percent response rate from the eighty-eight public school

districts.

Two limitations are inherent in this study. One limitation is that only those districts receiving state funds via the cost differential funding formula or other state operational monies were included in this study. Federal funds or monies from other than state or local funding sources for bilingual education were excluded from the present study. A second limitation of this study is its limited generalizability. No attempt is made to relate the findings of this study to school districts of other states. However, the procedures utilized in this study are applicable to other states conducting cost studies in bilingual education programs.

The regular education program consists of instructional activities provided to students enrolled in grades 4-6. Section 77-6-18.3 of the Public School Code of the State of New Mexico established grades 4-6 as the regular education program to serve as the base with a cost index of 1.00. Cost indices for all other educational programs are relative to that regular education program.

Per pupil program costs in the regular school program, grades 4-6, for each of the public school districts were determined. Program costs per pupil in the regular education program provide base line data for comparing other educational programs. Per pupil costs for bilingual education programs were also determined.

All operational expenditures were included in calculating per pupil costs. Indirect operational expenditures, those not directly

related to a specific educational program, were prorated to each program on the basis of either teachers or students. Expenditures for administration and operation and maintenance of plant were prorated on the basis of teachers because teachers served as a better workload indicator than do number of students since these types of expenditures were more closely related to teachers than students. For example, administrators administer teachers not students. Direct operational expenditures related to a specific educational program were computed as part of the per pupil costs for that particular program.

Program cost per pupil for each of the bilingual education programs in this study and the regular education programs were determined by computing the total expenditures for each program and dividing by the number of FTE or ADM students served in that program.

Hundreds of calculations were required to determine the per pupil expenditures for the regular education program. Four worksheets, I-A, I-B, I-C, and I-D were developed by the researcher to determine the per pupil expenditures for grades 4-6 (See Appendix B). The numbers refer to particular data items in the data collection instruments. A legend is provided for each worksheet to define the calculations.

Worksheet II was designed by the researcher to determine the per pupil expenditures for bilingual education programs (See Appendix C). Data for this worksheet were provided from Data Collection Instruments 1 and 2 and from Worksheets I-A, I-B, I-C, and I-D. Section V of Data Collection Instrument Number 2 provided most of the data for the calculations in Worksheet II.

Expenditures for teacher salaries were determined by multiplying the number of FTE teachers times the average teacher salary for the district plus the expenditures for substitute salaries. This figure is represented by Item A_2, Worksheet II.

The total number of FTE students in bilingual education programs was determined by adding the number of FTE students funded specifically by the cost differential funding formula and the FTE students funded by other operational funds. The total number of FTE students is represented by Item A_3, Worksheet II.

Expenditures for teacher-aide salaries were determined by multiplying the number of FTE teacher-aides times the average teacher aide salary for the district. Such expenditures were represented by Item C, Worksheet II. Other direct expenditures for bilingual education programs included expenditures for program administration, coordinators, secretarial/clerical, and instructional supplies.

Indirect expenditures for bilingual education programs included expenditures for general district-wide administration and for operation and maintenance of plant as represented by Items E_1 and T, Worksheet II, respectively. The above expenditures were prorated on the basis of teachers.

Some New Mexico school districts received federal categorical funds for the support of bilingual education. Pertinent data relative to federally funded student FTE and salaries paid for instruction were also collected from the school districts. Columns 4 and 5 of Section V, Data Collection Instrument Number 2, collected data regarding federally funded bilingual education programs.

In those cases where New Mexico school districts received both state and federal funds for bilingual education, it became essential to separate the expenditure associated with each funding source. Some districts, because of their lack of funds, had to combine their funding sources to meet the needs of their students. For example, the expenditures for administration of both the state and federally funded bilingual education programs might have been incurred by only one funding source; yet, the services were rendered to two differently funded bilingual programs.

In Worksheet II, calculations were made to determine if federal expenditures were used to administer state funded bilingual programs (Item M); and if so, were added to the total bilingual education program costs. Calculations were also made to determine if state expenditures were used to administer federal funded bilingual programs (Item O); if so, were subtracted from the total bilingual education program costs. These calculations were made to reflect a more accurate picture in terms of actual expenditures associated with state funded bilingual education programs.

Item U, Worksheet II, represents the program cost index as opposed to the add-on cost index. The bilingual education program cost index consisted of the total indirect and direct program expenditures per pupil as a ratio to the grades 4-6 expenditures per pupil.

Analysis

Table 1 presents the costs per pupil for bilingual education pro-

grams and the regular education program, grades 4-6, and other relevant data. Of the eighty-eight New Mexico public school districts, sixty-two districts or 70 percent, provided approved bilingual education programs. Column A shows the 1974-75 total average daily membership (ADM) for each of the eighty-eight school districts. School districts in Groups I through Group VIII progress in terms of increased ADM. Column B presents the bilingual education full-time equivalent (FTE) pupils for those districts providing bilingual education programs.

The bilingual education costs per FTE pupil are shown in Column C. The bilingual education program costs are presented in Column D. These figures are determined by multiplying Column B times Column C.

Column E presents the regular education program, Grades 4-6, ADM. Grades 4-6 costs per pupil are shown in Column F. The regular education program costs are shown in Column G. These figures are determined by multiplying Column E times Column F. Finally, Column H presents the cost index or ratio between the per pupil costs of the bilingual education program and the per pupil costs of the regular education program, grades 4-6.

Table 1 also shows District No. 84 in Group VII as the district with the highest expenditure for bilingual education at $2,809.96 per pupil. District No. 3 in Group I was the district with the lowest expenditure at $31.31 per pupil. The mean per pupil expenditure was $77.81. The median per pupil expenditure for bilingual education programs was $658.65. The standard deviation, a measure of variability calculated around the mean, was 559.85.

For districts offering bilingual programs, District No. 1 in Group I was the district with the highest expenditure for the regular education program at $1,700.48 per pupil. District No. 66 in Group V was the lowest

Table 1

PER PUPIL COSTS AND PROGRAM COSTS FOR BILINGUAL EDUCATION PROGRAMS AND REGULAR EDUCATION PROGRAMS FOR NEW MEXICO SCHOOL DISTRICTS DURING THE 1973-74 SCHOOL YEAR

DISTRICT	A 1974-75 Total ADM	B Bilingual FTE	C Bil. Cost/ FTE Pupil	D Bil. Prog. Cost (B x C)	E Grades 4-6 ADM	F Grades 4-6 Cost/Pupil	G Grades 4-6 Prog. Cost (E x F)	H Cost Index (C ÷ F)
Group I 0-200 ADM								
1	93	3.34	877.04	2,929.31	18.53	1,700.48	31,509.89	.52
2	95							
3	106	4.79	31.31	149.97	24.00	1,065.25	25,566.00	.03
4	118	8.34	194.55	1,622.55	29.50	1,554.40	45,854.80	.13
5	145	3.33	667.29	2,222.08	44.00	1,008.20	44,360.80	.66
6	147							
7	147							
8	164							
9	173							
10	183							
11	186	7.91	834.36	6,599.79	33.95	1,477.40	50,157.73	.56
12	198							
GROUP I TOTALS:	1,755	27.71		13,523.70	149.98		197,449.22	
GROUP I AVERAGES:			488.04 (D ÷ B Total) X			1,316.50 (G ÷ E Total) Y		
GROUP I COST INDEX:								.37 (X ÷ Y)

Table 1 (Continued)

DISTRICT	A 1974-75 Total ADM	B Bilingual FTE	C Bil. Cost/ FTE Pupil	D Bil. Prog. Cost (B x C)	E Grades 4-6 ADM	F Grades 4-6 Cost/Pupil	G Grades 4-6 Prog. Cost (E x F)	H Cost Index (C ÷ F)
Group II 201-500 ADM								
13	208							
14	209	8.00	433.60	3,468.80	52.05	1,042.25	54,249.11	.42
15	236	19.12	802.95	15,352.40	66.71	794.95	53,031.11	1.01
16	237							
17	245							
18	261							
19	265							
20	300							
21	356							
22	359							
23	383	20.04	640.39	12,833.42	133.41	730.84	97,501.36	.88
24	386							
25	398							
26	444	1.65	1,640.00	2,706.00	121.08	678.13	82,107.98	2.42
27	445	2.91	1,345.32	3,914.88	99.42	1,160.21	115,348.08	1.16
28	446							
29	449	17.20	376.69	6,479.07	87.26	914.79	79,824.58	.41
30	458							
GROUP II TOTALS:	6,085	68.92		44,754.57	559.93		482,122.22	
GROUP II AVERAGES:			649.37 (D ÷ B Total) X			861.04 (C ÷ E Total) Y		
GROUP II COST INDEX:								.75 (X ÷ Y)

Table 1 (Continued)

DISTRICT	A 1974-75 Total ADM	B Bilingual FTE	C Bil. Cost/ FTE Pupil	D Bil. Prog. Cost (B x C)	E Grades 4-6 ADM	F Grades 4-6 Cost/Pupil	G Grades 4-6 Prog. Cost (E x F)	H Cost Index (C ÷ F)
Group III 501-1000 ADM								
31	558	5.67	439.26	2,490.60	144.70	705.41	102,072.83	.62
32	570	17.53	798.43	13,996.48	140.69	887.53	124,866.60	.90
33	580	24.98	591.66	14,779.67	159.36	729.58	116,265.87	.81
34	594	15.00	383.41	5,751.15	155.50	872.22	135,630.21	.44
35	617	8.30	755.67	6,272.06	147.75	771.84	114,039.36	.98
36	619	42.03	961.52	40,412.69	162.56	1,048.89	170,507.56	.92
37	635	6.95	720.65	5,008.52	146.11	753.79	110,136.26	.96
38	637							
39	651	14.33	488.79	7,004.36	155.85	789.60	123,090.33	.62
40	712	3.50	539.20	1,887.20	160.21	897.61	143,806.10	.60
41	808	13.80	590.27	8,145.73	189.77	794.70	150,310.22	.74
42	831	8.58	323.34	2,774.26	186.91	900.87	168,381.61	.36
43	857	68.28	610.14	41,660.36	226.40	810.33	183,459.71	.75
44	903	12.53	413.99	5,187.29	207.10	493.84	102,274.26	.84
45	969	62.84	274.16	17,228.21	262.14	706.01	185,073.46	.39
46	996	42.87	642.23	27,532.40	247.93	803.79	199,283.65	.80
GROUP III TOTALS:	11,542	347.19		200,130.98	2,692.98		2,129,697.02	
GROUP III AVERAGES:			576.43 (D ÷ B Total) X			790.83 (G ÷ E Total) Y		
GROUP III COST INDEX:								.73 (X ÷ Y)

Table 1 (Continued)

DISTRICT	A 1974-75 Total ADM	B Bilingual FTE	C Bil. Cost/ FTE Pupil	D Bil. Prog. Cost (B x C)	E Grades 4-6 ADM	F Grades 4-6 Cost/Pupil	G Grades 4-6 Prog. Cost (E x F)	H Cost Index (C ÷ F)
Group IV 1001-2500 ADM								
47	1,034	19.16	522.11	10,003.63	258.03	859.19	221,696.80	.61
48	1,035	15.20	206.76	3,142.75	272.16	710.24	193,298.92	.29
49	1,038							
50	1,043	14.70	247.44	3,637.37	233.53	731.81	170,899.59	.34
51	1,068	77.95	331.59	25,847.44	248.60	657.04	163,340.14	.50
52	1,140	13.50	2,425.08	32,738.58	285.90	756.36	216,243.32	3.21
53	1,223	5.18	2,413.81	12,503.54	321.18	716.72	230,196.13	3.37
54	1,276	28.14	518.21	14,582.43	336.60	759.20	255,546.72	.68
55	1,491	5.48	815.45	4,468.67	332.05	713.77	272,695.83	1.14
56	1,578	6.83	110.91	757.52	385.69	653.23	251,944.28	.17
57	1,875							
58	1,880	20.34	851.55	17,320.53	424.97	763.83	324,604.84	1.11
59	2,025							
60	2,209	13.16	1,193.73	15,709.49	534.28	684.40	365,601.23	1.74
61	2,233							
GROUP IV TOTALS:	22,148	219.64		140,711.95	3,682.99		2,666,127.30	
GROUP IV AVERAGES:			640.65 (D ÷ B Totals) X			723.90 (G ÷ E Totals) Y		
GROUP IV COST INDEX:								.88 (X ÷ Y)

Table 1 (Continued)

DISTRICT	A 1974-75 Total ADM	B Bilingual FTE	C Bil. Cost/ FTE Pupil	D Bil. Prog. Cost (B x C)	E Grades 4-6 ADM	F Grades 4-6 Cost/Pupil	G Grades 4-6 Prog. Cost (E x F)	H Cost Index (C ÷ F)
GROUP V 2501-4000 ADM								
62	2,618	32.38	895.31	28,990.14	611.65	765.40	468,156.91	1.17
63	2,634	61.98	452.39	28,039.13	689.73	714.71	492,956.93	.63
64	2,636	91.74	1,656.40	151,958.14	660.57	689.53	455,482.83	2.40
65	2,819	143.92	328.53	47,282.04	739.10	784.03	579,476.57	.42
66	2,876	572.44	776.77	444,654.21	744.05	436.88	325,060.56	1.78
67	2,892	53.92	267.72	14,435.46	760.17	790.25	600,724.34	.34
68	3,301	106.38	1,262.49	134,303.69	854.23	670.55	572,803.93	1.88
69	3,399	37.66	630.26	23,735.59	838.70	789.10	661,818.17	.80
70	3,456							
71	3,551	47.90	145.20	6,955.08	809.74	736.63	596,478.78	.20
72	3,698	44.50	792.21	35,253.35	902.37	728.18	657,087.79	1.09
73	3,794	81.88	685.12	56,097.63	953.03	721.57	687,677.86	.95
GROUP V TOTALS:	37,674	1,274.70		971,704.46	8,563.34		6,097,724.66	
GROUP V AVERAGES:			762.30 (D ÷ B Totals) X			712.07 (G ÷ E Totals) Y		
GROUP V COST INDEX:								1.07 (X ÷ Y)

Table 1 (Continued)

DISTRICT	A 1974-75 Total ADM	B Bilingual FTE	C Bil. Cost/ FTE Pupil	D Bil. Prog. Cost (B x C)	E Grades 4-6 ADM	F Grades 4-6 Cost/Pupil	G Grades 4-6 Prog. Cost (E x F)	H Cost Index (C ÷ F)
Group VI 4001-7500 ADM								
74	4,815							
75	4,834	48.66	1,205.33	58,651.36	1,292.12	599.92	775,168.63	2.01
76	4,967	49.82	1,843.03	91,819.75	1,125.19	708.53	797,230.87	2.60
77	5,491	114.56	148.24	16,982.37	1,445.33	874.32	1,226.680.93	.17
78	6,016	245.13	1,038.14	254,479.25	1,503.88	824.80	1,240,400.72	1.26
79	6,392	29.27	297.31	8,702.26	1,499.82	709.13	1,063,567.36	.42
80	7,042	5.13	702.92	3,605.98	1,702.00	743.31	1,265,113.62	.95
81	7,194	39.87	881.28	35,136.63	1,867.94	799.13	1,492,726.89	1.10
GROUP VI TOTALS:	46,751	532.44		469,377.60	10,436.28		7,897,888.52	
GROUP VI AVERAGES:			881.56 (D ÷ B Totals) X			756.77 (G ÷ E Totals) Y		
GROUP VI COST INDEX:								1.16 (X ÷ Y)

Table 1 (Continued).

DISTRICT	A 1974-75 Total ADM	B Bilingual FTE	C Bil. Cost/ FTE Pupil	D Bil. Prog. Cost (B x C)	E Grades 4-6 ADM	F Grades 4-6 Cost/Pupil	G Grades 4-6 Prog. Cost (E x F)	H Cost Index (C ÷ F)
Group VII 7501-17500 ADM								
82	8,689	14.48	1,223.11	17,710.63	2,180.73	713.25	1,555,405.67	1.71
83	9,046	25.98	1,018.37	26,457.25	2,198.39	751.46	1,652,002.15	1.36
84	9,902	52.27	2,809.96	146,876.61	2,383.80	718.50	1,716,352.80	3.91
85	11,858	176.37	1,096.01	193,303.28	3,174.99	741.77	2,355,112.33	1.48
86	12,462	233.06	406.49	94,736.55	3,270.01	821.61	2,686,672.92	.49
87	15,208	139.06	461.96	64,240.16	3,801.19	746.69	2,838,310.56	.62
GROUP VII TOTALS:	67,165	641.22		543,324.49	17,014.11		12,803,856.43	
GROUP VII AVERAGES			847.33 (D ÷ B Totals) X			752.54 (G ÷ E Totals) Y		
GROUP VII COST INDEX:								1.13 (X ÷ Y)

Table 1 (Continued)

DISTRICT	A 1974-75 Total ADM	B Bilingual FTE	C Bil. Cost/ FTE Pupil	D Bil. Prog. Cost (B x C)	E Grades 4-6 ADM	F Grades 4-6 Cost/Pupil	G Grades 4-6 Prog. Cost (E x F)	H Cost Index (C ÷ F)
Group VIII Over 17,500 ADM								
88	83,397	455.08	858.88	390,859.11	20,549.19	761.50	15,648,208.18	1.13
GRAND TOTAL:	276,517	3,566.90		2,774,386.86	63,648.80		47,923,074.05	
GRAND AVERAGES:			771.81 (D ÷ B Totals) X_T			752.93 (G ÷ E Totals) Y_T		
GRAND COST INDEX:								$\frac{1.03}{(X_T \div Y_T)}$

expenditure district at $436.88 per pupil. The mean per pupil expenditure was $752.93. The median per pupil expenditure for grades 4-6 was $757.78. The standard deviation was 212.06.

Cost indices for the eight groups range from a 0.37 in Group I to 1.16 in Group VI. The following matrix shows the eight groups with their respective cost indices:

Group (ADM)	Cost Index
I (0-200)	0.37
II (201-500)	0.75
III (501-1,000)	0.73
IV (1,001-2,500)	0.88
V (2,501-4,000)	1.07
VI (4,001-7,500)	1.16
VII (7,501-17,500)	1.13
VIII (Over 17,500)	1.13
Statewide Average:	1.03

The above matrix suggests that school districts with larger enrollments tend to have higher cost indices for bilingual education programs. The primary reason for the lower cost indices in the first three groups is partially due to the high per pupil expenditures in the regular education program and the relatively lower per pupil expenditures for bilingual education programs. The higher cost indices in the latter groups is partially due to the low per pupil expenditures in the regular education program and the relatively higher per pupil expenditures in the bilingual education programs.

There exists a number of methods for computing the statewide bilingual education program cost index. One method is to determine the median program cost index, which for this study was 0.81. The following two equations propose alternate methods:

$$BCI = \left(\frac{\Sigma \text{ Bil. Program Costs Per Pupil}}{N}\right) \div \left(\frac{\Sigma \text{ Grades 4-6 Cost Per Pupil}}{N}\right) \quad (1.1)$$

where

BCI = Statewide Bilingual Education Program Cost Index.

N = Number of districts providing Bilingual Education Programs.

Equation 1.1 presents the weighted mean program cost index for bilingual education. This equation calculated the mean program cost index at 0.95.

$$BCI = \left(\frac{\Sigma \text{ Bil. Prog. Costs}}{\Sigma \text{ Bil. Pupil FTE}}\right) \div \left(\frac{\Sigma \text{ Grades 4-6 Prog. Cost}}{\Sigma \text{ Grades 4-6 ADM}}\right) \quad (1.2)$$

where

BCI = Statewide Bilingual Education Program Cost Index.

Equation 1.2 presents the mean program cost index for bilingual education. This equation calculated the mean at 1.03. This study utilized this equation to calculate the statewide program cost index. This method was chosen over the previous two methods because it reflects more accurately the statewide costs for both the regular education programs, grades 4-6, and the bilingual education programs.

The results of the study indicate that no significant cost differences exist between bilingual education program costs and non-bilingual regular education program costs on a statewide basis. The study shows that it costs $777.81 to provide a bilingual education program per FTE pupil. It costs $752.93 per pupil to provide a non-bilingual regular education program at the elementary school level. The $24.88 difference between the two programs suggest that it costs approximately 1.03 or 3% more to provide a bilingual

program over the regular program, grades 4-6. Teachers and teacher aides represent the highest expenditure items.

Summary and Conclusions

The purpose of this study was to determine and compare the costs associated with bilingual education programs and non-bilingual regular education programs, grades 4-6.

The costs associated with bilingual education programs as compared to non-bilingual regular education programs are basically similar with a difference of 3.0 percent higher for bilingual programs. The bilingual needs of limited English-speaking and non-English speaking students should not only be satisfied from a moral, social, and academic perspective, but the results of this study also suggest that cost should not be a limiting factor. That is, bilingual education programs are not as expensive to provide as is commonly believed.

Finally, it is important to note that the bilingual education costs determined in this study do not reflect the costs associated with the quality of the bilingual programs. This study determined the costs of the bilingual education programs as they existed in the 62 New Mexico school districts providing such programs.

District Code No. _____ (Leave Blank)

APPENDIX A
BILINGUAL EDUCATION

All questions are to be answered for Operational funded FTE's, Salaries and Other Expenditures except where otherwise specified for the fiscal year 1974-75. Expenditure information must correspond to Monthly Budget Report: 1974-75 for the month of June 1975, column 7, entitled "Total Expended To Date." Full-time equivalents (FTE) personnel must correspond to Report of Average Salaries 1974-75: Operational Budget Personnel Only, column 5. Some FTE and expenditure information is required from the 2200, Special Projects, series and is so designated. Expenditure account code numbers are designated for all questions in brackets either immediately following the question or underneath the blank to be filled in. When an expenditure account code number is not designated for a particular question, a column is left blank for you to insert the appropriate expenditure account code number for which a series of questions must be answered. If your district does not have FTE personnel and/or expenditures for a particular question enter "0" for none in each appropriate blank. ALL QUESTIONS MUST BE ANSWERED.

		Operational FTE		Non-operational Federal Funded FTE		
1. Number of FTE classroom teachers serving Bilingual Education Programs in each of the respective educational program categories:		270 (210.04)		271 (2200)	=	272 FTE Total
2. Number of FTE teacher aides serving Bilingual Education Programs in each of the respective educational program categories:		273 (210.09)	+	274 (2200)	=	275 FTE Total
3. Number of FTE and salaries for Bilingual Education Program Administration by the following categories:	Expend. Acct. Code Number		Oper. Salaries Paid		Categorical Federal Funded Salaries Paid	
a. Program Administrator/Director	276	277	278	279 (2200)	280 (2200)	
b. Assistants/Coordinators/Others	281	282	283	284 (2200)	285 (2200)	
c. Secretarial/Clerical	286	287	288	289 (2200)	290 (2200)	
4. Number of FTE students served by operational and federal funds. (Use 40 or 80 Day reporting period information whichever was used for funding purposes).	291 State Equalization FTE	292 + Other Oper. FTE	+	293 Federal FTE	=	294 Total FTE
5. Total expenditures for Bilingual Education Program instructional supplies (220.01 + 220.02 + 230.01 + 240.01)						295 Expenditures

Person completing Section V: _____ (Print or Type) Signature: _____

Position: _____ (Print or Type) Phone: _____ District Name: _____ (Print or Type)

APPENDIX B

WORKSHEET I-A

DETERMINATION OF PER PUPIL EXPENDITURES FOR REGULAR EDUCATIONAL PROGRAMS, GRADES 4-6

Administration (100)

Total Items: 77 + 80 + 83 = _____ (A).

Total Items: 100 + 101 = _____ (B), Item 101 ÷ _____ (B) = _____ (C).

_____ (A) x _____ (C) = _____ (D).

Total Items: (113 + 116 + 119 + 153 + 158 + 163 + 237 + 242 + 247 + 278 + 288 + 303 + 308 + 313 if 100 Series or 210.01 is stated in the expenditure account code number) = _____ (E).

Total Items: 20 + 22 + 24 + 26 + 27 + 41 = _____ (F).

_____ (F) - _____ (A) + _____ (E) = _____ (G) ÷ Item B, Worksheet I-B =

_____ (H) x Item 101 = _____ (I) + _____ (D) = _____ (J).

_____ (J) ÷ Item 3 = _____ (K).

A = Expenditures for administration for grades 1-6

B = Total FTE teachers grades 1-6

C = Percent FTE teachers in grades 4-6

D = Expenditures for administration for grades 4-6 specified by proration

E = Expenditures for administration specified in other educational programs

F = Expenditures for administration including principals district-wide

G = Expenditures for administration district-wide unspecified

H = Per teacher expenditures for administration district-wide unspecified

I = Expenditures for administration grades 4-6 portion of unspecified

J = Total expenditures for administration grades 4-6

K = Per pupil expenditures for administration for grades 4-6

WORKSHEET I-B

Instruction (200) and Attendance Services (300)

Total Items: 91 + 95 + 99 = _____ (A). Total Items: 28 + 31 = _____ (B).

Total Items: 102 + 103 + 104a + 105a + 138 + 139 + 140a + 141a + 325a = _____ (B_1).

Total Items: 29 + 32 = _____ (C) - _____ (B_1) = _____ (C_1).

_____ (C) + _____ (B) = _____ (D) x Item 101 = _____ (E).

Item 3 + Item 101 = _____ (F). _____ (B) - Item 177 = _____ (F_1).

Total Items: 37 + 54 = _____ (I), Total Items: 38 + 55 = _____ (J).

_____ (J) + _____ (I) = _____ (K) x Item 108 = _____ (L) + Item 3 = _____ (M).

Item 58 + _____ (F_1) = _____ (N) x Item 101 = _____ (O).

_____ (E) + _____ (O) + Item 105a + Item 103 = _____ (P) + Item 3 = _____ (Q).

Total Items: 89 + 91 + 125 + 127 + (any corresponding expenditure where 210.03 is stated in the expenditure account code number) = _____ (S).

Item 43 - _____ (S) = _____ (T) + _____ (B) = _____ (U) x Item 101 = _____ (V).

Total Items: 45 + 47 + 49 + 51 = _____ (W).

Total Items: 93 + 95 + 129 + 131 + 188 + 190 + 192 + 197 + 199 + 201 + 206 + 208 + 210 and any corresponding expenditure where 210.5 series is stated in the expenditure account code number = _____ (X).

_____ (W) - _____ (X) = _____ (Y) + Item 1 = _____ (Z) x Item 3 = _____ (AA).

Total Items: 97 + 99 + 133 + 135 + (any corresponding expenditure where 210.07 is stated in the expenditure account code number) = _____ (BB).

Item 53 - _____ (BB) = _____ (CC) + Item 1 = _____ (DD) x Item 3 = _____ (EE).

Total Items: 109 + 145 + 146 + (172 if 170 = 220.01, 220.02, 230.01, or 240.01) + 212 + 214 + 216 + 218 + 295 + 321 = _____ (FF).

Item 60 - (Item 110 + _____ (FF)) = _____ (GG) + Item 1 = _____ (HH).

_____ (HH) x Item 3 = _____ (II) + Item 110 = _____ (JJ) + Item 3 = _____ (KK).

_____ (A) + _____ (L) + _____ (P) + _____ (V) + _____ (AA) + _____ (EE) + _____ (JJ) = _____ (LL) +

Item 3 = _____ (MM).

24

A = Expenditures for instructional salaries excluding teacher and instructional aides salaries

B = Total teachers district-wide

B_1 = Total expenditures for teachers' increments and extended contracts

C = Total teachers' salaries district-wide

C_1 = Total teachers' salaries district-wide minus increments and extended contracts

D = Average teacher salary district-wide

E = Expenditures for teacher salaries grades 4-6

F = Pupil/teacher ratio

F_1 = Total teachers minus teachers in Class B programs

I = Total instructional aides district-wide

J = Total instructional aides salaries district-wide

K = Average instructional aide salary district-wide

L = Expenditures for instructional aide salaries grades 4-6

M = Per pupil expenditures for instructional aide salaries grades 4-6

N = Substitute salaries per FTE teacher district-wide

O = Substitute salaries expenditures grades 4-6

P = Total expenditures for teacher salaries grades 4-6

Q = Per pupil expenditures for teacher salaries grades 4-6

S = Total expenditures for coordinators specified

T = Expenditures for coordinators district-wide unspecified

U = Per teacher expenditures for coordinators district-wide unspecified

V = Expenditures for coordinators portion of unspecified for grades 4-6

W = Expenditures for other instructional personnel district-wide

X = Total expenditures for other instructional personnel specified

Y = Expenditures for other instructional personnel district-wide unspecified

Z = Per pupil expenditures for other instructional personnel district-wide unspecified

AA = Expenditures for other instructional personnel portion of unspecified for grades 4-6

BB = Expenditures for secretarial/clerical assistants specified

CC = Expenditures for secretarial/clerical assistants unspecified

DD = Per pupil expenditures for secretarial/clerical assistants unspecified

EE = Expenditures for secretarial/clerical assistants portion of unspecified for grades 4-6

FF = Expenditures for instructional supplies specified

GG = Expenditures for instructional supplies district-wide unspecified

HH = Per pupil expenditures for instructional supplies district-wide unspecified

II = Expenditures for instructional supplies grades 4-6 portion unspecified

JJ = Total expenditures for instructional supplies grades 4-6

KK = Per pupil expenditures for instructional supplies

LL = Total expenditures for instruction and attendance services grades 4-6

MM = Per pupil expenditures for instruction and attendance services grades 4-6

WORKSHEET I-C

Health Services (400), Operation (600) and Maintenance of Plant (700), Fixed Charges (800), and Student Activities (1000)

Total Items: 62 + 63 = _____ (A) + Item 1 = _____ (B) x Item 3 = _____ (C).

Item B, Worksheet I-B - Item 176 = _____ (C_1).

Total Items: 65 + 66 = _____ (D) ÷ _____ (C_1) = _____ (E) x Item 101 = _____ (F).

Total Items: 68 + 69 = _____ (G) ÷ _____ (C_1) = _____ (H) x Item 101 = _____ (I).

Item 1 - Item 6 = _____ (J).

Item 70 ÷ _____ (J) = _____ (K) x Item 3 = _____ (L).

Item 71 ÷ Item 1 = _____ (M) x Item 3 = _____ (N).

Total Items: 72 + 73 + 74 = _____ (O) x .125 = _____ (P).

_____ (C) + _____ (F) + _____ (I) + _____ (L) + _____ (N) + _____ (P) =

_____ (Q) ÷ Item 3 = _____ (R).

A = Total expenditures for health services district-wide
B = Per pupil expenditures for health services district-wide
C = Expenditures for health services grades 4-6
C_1 = Total FTE teachers minus Class A program FTE teachers
D = Total expenditures for operation of plant district-wide
E = Per teacher expenditures for operation of plant district-wide
F = Expenditures for operation of plant grades 4-6
G = Total expenditures for maintenance of plant district-wide
H = Per teacher expenditures for maintenance of plant district-wide
I = Expenditures for maintenance of plant grades 4-6
J = School district ADM excluding Early Childhood Education student FTE
K = Fixed charges (employee benefits) per pupil district-wide
L = Expenditures for (employee benefits) grades 4-6
M = Fixed charges (other) per pupil district-wide
N = Expenditures for fixed charges (other) grades 4-6
O = Expenditures for student activities district-wide
P = Expenditures for student activities grades 4-6
Q = Total expenditures for health services, operation & maintenance of plant, fixed charges, and student services grades 4-6
R = Per pupil expenditures for the above educational functions grades 4-6

WORKSHEET I-D

Total: From Worksheet I-A, Item K = _____

From Worksheet I-B, Item MM= _____

From Worksheet I-C, Item R = _____

_____
S

Sparsity Corrections

Total Items: 2 + 3 + 4 + 9 + 10 = _____.

Item 14 ÷ _____ = _____.
T U

Item 1 - Item 6 = _____.
V

Item 18 ÷ _____ = _____.
V W

_____ + _____ = _____.
U W X

_____ - _____ = _____.
S X Y

S = Per pupil operational expenditures for grades 4-6

T = Total elementary, junior high, Special Education Classes C & D ADM

U = Per pupil allocations for elementary and junior high sparsity

V = School district ADM excluding Early Childhood Education student FTE

W = Per pupil allocations for district sparsity

X = Total per pupil allocations for sparsity

Y = Per pupil operational expenditures for grades 4-6 excluding sparsity

APPENDIX C

WORKSHEET II

DETERMINATION OF PER PUPIL EXPENDITURES FOR BILINGUAL EDUCATIONAL PROGRAMS

Item 270 x Item D, Worksheet I-B _____ (A). Total Items: 11 + 292 = _____ (A_3).

Item 270 x Item N, Worksheet I-B = _____ (A_1) + _____ (A) = _____ (A_2).

_____ (A_2) ÷ _____ (A_3) = _____ (B). _____ (A_3) ÷ Item 270 = _____ (B_1).

Item 273 x Item K, Worksheet I-B = _____ (C) ÷ _____ (A_3) = _____ (D).

Total Items: 278 + 283 + 288 = _____ (E). Item H, Worksheet I-A x Item 270 = _____ (E_1).

Total Items: 280 + 285 + 290 = _____ (F). Item 270 ÷ Item 272 = _____ (G).

Item U, Worksheet I-B x Item 270 = _____ (H). Items (291 + 292) ÷ Item 294 = _____ (I).

_____ (E) + _____ (F) = _____ (J) + _____ (E_1) + _____ (H) = _____ (J_1). _____ (E) ÷ _____ (J) = _____ (K).

If I = K, then no further calculations on program administration are required.

If I K, then _____ (I) – _____ (K) = _____ (L) x _____ (F) = _____ (M).

If I K, then _____ (K) – _____ (I) = _____ (N) x _____ (E) = _____ (O).

_____ (E) + _____ (H) + _____ (M) – _____ (O) = _____ (P). Item 295 ÷ _____ (A_3) = _____ (Q).

(Items: E + H, Worksheet I-C) x Item 270 = _____ (T) + _____ (A_2) + _____ (C) + _____ (P) +

_____ (E_1) + Item 295 = _____ (R) ÷ _____ (A_3) = _____ (S) ÷ Item S, Worksheet I-D = _____ (U).

A = Expenditures for teacher salaries
A_1 = Expenditures for substitute salaries for bilingual education
A_2 = Total expenditures for teacher salaries
A_3 = Total operational student FTE in bilingual education
B = Per pupil expenditures for teacher salaries
B_1 = Pupil/Teacher Ratio
C = Expenditures for teacher aide salaries
D = Per pupil expenditures for teacher aide salaries
E = State expenditures specified for program administration
E_1 = Expenditures for general district-wide administration
F = Federal expenditures for program administration
G = Percent state funded FTE teachers of total funded bilingual education teachers
H = Expenditures for coordinators portion of unspecified for bilingual education
I = Percent state funded student FTE of total funded bilingual education student FTE
J = Expenditures for program administration excluding coordinators expenditures
J_1 = Total expenditures for program administration
K = Percent state expenditures for program administration of total administration costs
L = Percent state funded FTE students over percent state program administration expenditure
M = Federal expenditures used to administer state bilingual programs
N = Percent state program administration expenditures over percent state funded FTE students
O = State expenditures used to administer federal bilingual programs
P = Adjusted program administration expenditures
Q = Per pupil expenditures for instructional supplies
R = Total expenditures for bilingual education
S = Per FTE pupil expenditures for bilingual education programs
T = Prorated expenditures for operation and maintenance of plant
U = Program Cost Index